



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

Bischel et al.

Serial No.: 10/002,076

Filed: November 1, 2001

Confirmation No.: 3600

For: ELECTRIFIED CEILING TRUSS

Examiner: Payne, Sharon E.

Art Unit: 2875

Docket No.: A148 1590.1

9 Aff'd. Dec
M. Brunson
7/9/03

DECLARATION UNDER 37 C.F.R. §1.131

Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

We, the undersigned, state as follows:

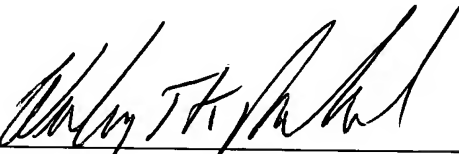
1. We are the applicants in the above-identified patent application and the co-inventors of the subject matter claimed in this application.
2. The invention claimed in this application relates, at least, to an apparatus and method for providing support for a suspended ceiling system and movable lighting for a room. The apparatus essentially comprises a ceiling truss having a main beam and at least one standoff connected to and projecting laterally from the main beam. A truss cable is anchored at the ends of the beam and extends over the standoff to form a cable truss configuration for providing support to the beam. The truss cable can be electrified, wherein a lighting fixture may be attached to adjacent cables for illuminating a room below.

3. We conceived our claimed invention in the United States of America prior to March 2, 2000 and, coupled with due diligence, constructively reduced the invention to practice by filing a provisional application on November 3, 2000.

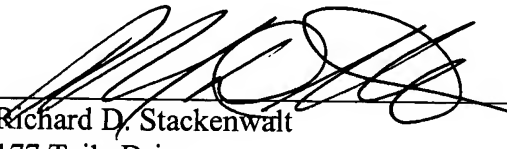
4. As documentary evidence of our conception of the invention prior to March 2, 2000, we submit herewith a copy an invention disclosure which was completed prior to March 2, 2000.

We hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

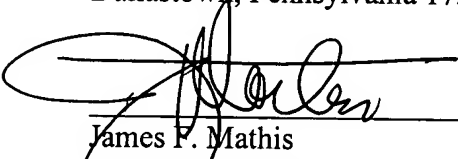
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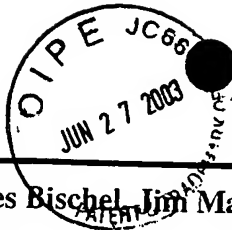

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ARMSTRONG CONFIDENTIAL
INVENTION DISCLOSURE

Inventors: Wes Bischel, Jim Mathis, Rick Stackenwalt

Date of Invention:

Title: Cable Suspension for Ceiling Systems

Disclosure:

Date:

Background of the Invention:

The traditional suspended ceiling is structured in a manner which balances the gauge of the metal for the grid components with the frequency of hanger wires at 48" o.c.. The load capacity of the grid is calculated with a safety factor to withstand deflection caused by the weight of the ceiling tile and subsequent ceiling apparatus. The span of 48" is considered as a code restriction and rarely varies. Rather, the gauge and height of the metal used to construct the grid varies with application to increase the load capacity. The inspiration of this invention is to use the principles of suspension bridges to increase the span and frequency of suspension.

Problem Solved by the Invention:

This invention solves the problem of frequent suspension points where the application or building condition does not permit for aesthetic or physical reasons. A secondary benefit to the system is the ability to integrate lighting fixtures with the actual means of suspension.

Description of the Invention:

1) Aircraft cable and compatible components are used in tension to add substantial structure or suspension for ceiling panels grid and lighting elements. In many applications, the cable with specific points of attachment can increase the load capabilities of the grid and decrease the frequency of suspension to the structure above. 2) The cable can also be used to provide power to low voltage fixtures and suspend the light fixture along with the ceiling panels and grid. 3) In corridor applications, the cable and its components can be used as a system to suspend ceiling panels *without* the use of traditional, rigid grid elements.

Novelty:

This concept is not offered today as a standard, pre-manufactured ceiling system solution. The materials are used in a unique way to provide both functional and aesthetic options for the architectural customer.

Prior Art:

- 1) Cable systems are used in both suspension bridges and architectural applications to reduce weight and increase spans between anchor points.
- 2) Low voltage lighting systems.

Difference Between the Invention and Prior Art:

The application for this invention is specific to providing the suspension for ceiling systems, including, grid, panels and lighting in an integrated fashion.

Main Operability Issues:

Code restrictions, UL approval for lighting.

Other ways to solve the same problem:

Increase metal gauge and height of existing ceiling grid systems. Electrify grid system to incorporate lighting (similar to track lighting)

Signature of Witness	Date	Inventor's Signature	Date	Inventor's Signature	Date
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Advantages:

Provides differentiation against our competitor by increasing spans and integrating lighting. Answers to the A/S portfolio and Darwin strategy. Reinforces our innovation leadership and sustains our brand promise (Between us...). It also provides a credible system towards trends of open plenum interiors.

Disadvantages:

It creates a more complex, engineered offer that may be difficult to drive with our current sales force. Some of the options included in this package could be seen as furniture for the ceiling or lighting components.

License / Patenting Strategy:

Patent as system(s) as soon as possible as there are several applications that may require this solution.

Competitors:

Steelcase, Knoll, Haworth, Herman Miller, USG, lighting companies. *Specialty Cig. companies.*

Aspects of Invention

See illustrations attached.

Signature of Witness	Date	Inventor's Signature	Date	Inventor's Signature	Date
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